REMARKS

This amendment, submitted in response to the Office Action dated September 6, 2002, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1-21 remain pending in the application. Claims 1-2 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 1-21 have been rejected under 35 U.S.C. § 103 as being unpatentable over U.S.P. 5,461,624 (Mazzola) in view of Katz, "TUBA: Replacing IP with CLNP." Applicant submits the following arguments in traversal of the Section 112 and prior art rejections.

Turning to the Section 112 rejections, the Examiner indicates that the claims are not clear for failing to describe the relationships between the routers and IP devices. The Examiner suggests that the claims should indicate whether the routers are directly connected to the IP devices or indirectly connected. However, Applicant would submit that Section 112 does not require that the claims describe any preferred embodiment of the invention, and that one skilled in the art would understand that the claim relates to an IP device interconnected by routers. Because the language specifically identified by the Examiner also occurs in other independent claims, which have been deemed sufficient to meet the requirements of Section 112, it would appear that claim 1 should also meet all such requirements. With regard to claim 2, the Examiner contends that the claim creates confusion in the situation where the IP devices are connected to one router. However, the claim specifically states that selective plural "ones" of the routers are directly connected to first and second devices. This should alleviate any confusion regarding local and remote gateways in subsequent claims.

Turning to the art rejections, Applicant's invention relates to a system and a method for overlaying a first communications protocol over a second different communications protocol that minimizes the amount of hardware that must be used to implement both protocols in a communications network. Fig. 4 illustrates an exemplary embodiment of the invention. The system includes end units $IP_2 - IP_6$ which are to be remotely managed by an end unit IP_1. The network includes routers operating in a different protocol than IP, in particular, the optical based network employs OSI on DCC. To avoid having to create a separate parallel network to manage the IP end units, the present invention provides IP tunnel interfaces 1, 2 between the OSI units that are directly connected with the IP terminals. Figs. 5 and 6 illustrate the general features that permit the IP terminals to co-exist with the OSI routers using CLNP by tunneling to routers directly connected to a particular IP device. The IP overlay with the OSI features are provided in selective routers (e.g. Fig. 4, elements IPG_1, IPG_3 and IPG_5).

Turning to the cited art, Mazzola relates to a distributed routing network with improved scalability to increase and decrease channels controlled in a single card. Referring to Fig. 1, an ES-IS (SONET-based) routing exchange routes messages through a communication network. With the ES-IS exchange, each network element broadcasts its NSAP address (or Hello PDU) to each network element to which it is directly connected. Upon receiving a Hello PDU, the network elements NE2-NE8 store the NSAP addresses in their respective databases along with path information regarding the path through which the Hello PDU was received. The path information includes the physical path of directly connected elements. Col. 2, line 60 to col. 3, line 20, and col. 4, lines 57-61.

Katz relates to a technical proposal for expanding the 4 octet IP address to longer CLNP addresses to accommodate more connections to the Internet. In this regard, Katz suggests complete replacement of IP with the CLNP protocol. The OSI network includes a full complement of routing protocols, and the proposed TUBA (TCP-IP-UDP with bigger address) does not modify that protocol. Page 40, col. 2, last full paragraph. Routing between hosts and routers uses the conventional ES-IS protocol, including the broadcast of hello packets. The exchange permits the hosts to know the identity of each router and the router to know the identity of each host. Page 41, col. 1, "Reachability Maintenance."

The Examiner maintains that the combination of Mazzola and Katz teaches or suggests each feature of independent claims 1, 9, 15 and 17. The Examiner correctly concedes that Mazzola does not teach or suggest the use of an overlaying IP interface over a second communications protocol and cites Katz to make up for this deficiency. The Examiner's rejection is not supported for at least the following reasons.

First, the Examiner has offered no reason as to why one skilled in the art would be motivated to combine the features of Mazzola and Katz. Rather, the Examiner merely concludes that it would be obvious to make the combination. However, a prima facie case must further include a rationale as to why one skilled in the art would make the combination in the first place. The mere fact that individual features may be previously known does not render a claim unpatentable if one skilled in the art would not recognize the value of the combination.

Second, even assuming *arguendo* that the references can be combined, their combination does not teach or suggest each feature of independent claim 1. Claim 1 describes that selective

routers include the overlay of IP and the second communications protocol. However, the operation of OSI and CLNP described in the primary reference requires that all physically connected routers receive address information from all neighboring routers. Similarly, Katz describes that all hosts be apprised of all routers and all routers be apprised of all hosts. In such an arrangement, the overlay is not selective at all, but must be resident on each router within the system. In this connection, Katz teaches a parallel path for two protocols, which provides no efficiencies. See page 45, col. 1, last 5 lines. By contrast, selective overlay of the claims does provide significant efficiencies. Therefore, Mazzola and Katz directly teach away from the features of claim 1.

Third, the Examiner appears to be making a rejection of the independent claim based on co-existence of two protocols in a system. However, claim 1 does not merely describe coexistence of protocols but the presence of an IP overlay at selective routers. Applicant would submit that the combination does not teach such selectivity, and for the reasons discussed above, would not include selective placement of IP overlays at the routers.

Because independent claims 9 and 14, as amended include features similar to that set forth above for claim 1 regarding a selective overlay of IP over the second communications protocol, claims 9 and 14 are patentable for at least the reasons set forth above for claim 1. Claims 2-8, 10-13 and 15-17 are patentable based on their dependency.

With further regard to dependent claims 3, 10 and 15, these claims describe that the overlay comprises a tunnel interface including a network address to uniquely identify a remote router connected to the second IP device. The Examiner contends that routing via CLNP allows

a tunnel to be created. The rejection of the dependent claims is deficient for the following reasons.

First, the Examiner's language used in the rejection that "since data can be routed using CLNP, a tunnel can be created" (Office Action, page 4, first full paragraph, emphasis added). Such speculative language clearly indicates that the Examiner is relying on possibilities of what can, or may, occur due to use of CLNP. It is well-settled that rejections based on possibilities are not supportable. In re Robertson, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999).

Second, the direct connections of Mazzola correlate to a path of Hello PDUs taken through a network so that the return information can follow the same path stored to an ES-IS database. Mazzola, col. 4, lines 8-14. This directly contradicts the concept of tunneling by providing a unique address to identify the remote router. In other words, Mazzola relies on a series of interlinked routers to define a path to an IP device. By contrast, claims 3, 10 and 15 describe a unique identifier that permits a tunnel directly connected to the IP device without the correlated path of connecting routers.

Because independent claim 17 includes features discussed above for claims 3, 10 and 15, claim 17 is also patentable for this additional reason.

Claims 18-21 are patentable based on their dependency.

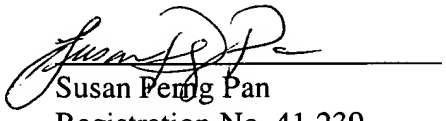
The claims are amended, and claim 22-23 are added to describe features of the invention more particularly.

In view of the above, Applicant submits that claims 1-23 are in condition for allowance. Therefore it is respectfully requested that the subject application be passed to issue at the earliest

possible time. The Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

Claim 2 (Amended). The method of claim 1, wherein selective ones of the routers comprise those routers directly connected to at least one of said first and second IP devices.

Claim 9 (Amended). An apparatus for transmitting an IP packet between a first IP device and a second IP device via a network including a plurality of routers running a second communications protocol different from said first and second IP devices, said apparatus comprising:

means for providing said second communications protocol; and

an IP interface overlaid over said second communications protocol at selective ones of said plurality of routers.

Claim 14 (Amended). A medium including a computer readable medium program means for transmitting an IP packet between a first IP device and a second IP device via a network including a plurality of routers running a second communications protocol different from said first and second IP devices, said computer readable medium comprising:

means for providing said second communications protocol; and

an IP interface overlaid over said second communications protocol at selective ones of said plurality of routers.

15 (Amended). The medium of claim 14, wherein a router directly connected to said first IP device comprises a local gateway and a router directly connected to said second IP device comprises a remote gateway, wherein the overlaid IP interface co-exists with said second communications protocol in said local gateway and said remote gateway, said overlaid IP interface comprises:

an IP tunnel interface comprising a network address for uniquely identifying the remote gateway in the second communications protocol, an interface number for reaching said network address, and an IP address for said second IP device to transmit an IP packet.

Claims 22-23 are added as new claims.